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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,902	04/05/2006	Holger von Stenzel	KURARAY-11	2426

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EXAMINER

HEINCER, LIAM J

ART UNIT	PAPER NUMBER
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1767

MAIL DATE	DELIVERY MODE
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12/27/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,902	Applicant(s) STENZEL ET AL.	
	Examiner LIAM J. HEINCER	Art Unit 1767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5-10 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration believes the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.

It does not state that the person making the oath or declaration has reviewed and understands the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration.

It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be “material to patentability as defined in 37 CFR 1.56.”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and

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invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4 and 11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heckner et al. (WO 0240578) in view of Papenfuhs et al. (WO 03/020776). Note: A Machine translation is being used for WO 02/0578 and US Patent 7,358,304 is being used as an English language equivalent of WO 03/020776.

Considering Claim 1-4 and 13-17: Heckner et al. teaches a composition comprising a polyvinyl butyrate having butyrate groups/units of acetal I where R^1 is a C_4 alkyl, vinyl alcohol groups and acetate groups (pg. 1), a plasticizer (pg. 2) and a lithium salt/support electrolyte (pg. 2).

Heckner et al. does not teach the polyvinyl butyrate as having a coacetate of the formula II. However, Papenfuhs et al. teaches a polyvinyl butyrate having vinyl alcohol units, vinyl acetate units (Example 2), vinyl butyral units/units of acetal I where R^1 is a C_4 alkyl (2:44-49) and units derived from an acid functional aldehyde that is preferably glycolic acid/formula II where R^3 is a direct bond (2:40-45). Papenfuhs et al. teaches examples having 1270:1, 127:1, and 63:1 ratios of vinyl butyrate groups to coacetate groups (Examples 2-4). Each example includes 77.5% vinyl butyrate groups with varying coacetate contents. Papenfuhs et al. teaches an example having 77.6% acetal groups, 21.2% vinyl alcohol groups and 1.17 polyvinyl acetate groups (Example 2) and broadly teaches the acetal content as being greater than 50% (2:32-59). Heckner et al. and Papenfuhs et al. are analogous art as they are concerned with the same field of endeavor, namely laminated safety glass comprising polyvinyl butyral. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the modified polyvinyl butyral of Papenfuhs et al. in the composition of Heckner et al., and the motivation to do so would have been, as Papenfuhs et al. suggests, to increase the solvent resistance of films made from the composition through crosslinking of the polyvinyl butyral (4:49-53).

Heckner et al. teaches the amount of lithium salt as being 0.01 to 5 mol/l of the softner mixture. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See MPEP § 2144.05. As Heckner et al. teaches that the

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lithium salt provides the ion-conducting properties of the composition, a person having ordinary skill in the art at the time of invention would consider the amount of lithium salt to be a result effective variable (pg. 2). It would have been obvious to a person having ordinary skill in the art at the time of invention to have optimized the weight percent of the lithium salt in the composition through routine experimentation, and the motivation to do so would have been, as Heckner et al. suggests, to increase the ion-conductivity of the foil (pg. 2).

Considering Claims 11 and 12: Heckner et al. teaches the composition as comprising 20 to 45% by weight of the plasticizer, with the balance being the resin (pg. 2).

Considering Claim 18: Heckner et al. teaches the lithium salt as being LiBF_4 , LiClO_4 , LiPF_6 , LiCF_3SO_3 , or $\text{LiN}(\text{SO}_2\text{CF}_3)_2$ (pg. 2).

Considering Claim 19: Heckner et al. does not teach the plasticizer as being of formula III. However, Papenfuhs et al. teaches the plasticizer as being a diester of diethylene, triethylene or tetraethylene glycol/compounds of formula III where n is 2-4 (3:46-51). It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the plasticizer of Papenfuhs et al. in the composition of Heckner et al., and the motivation to do so would have been, as Papenfuhs et al. suggests, it is a well known plasticizer for polyvinyl butyral (3:46-51).

Response to Arguments

Applicant's arguments filed November 22, 2010 have been fully considered but they are not persuasive, because:

A) In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, it would have been obvious to a person having ordinary skill in the art at the time of invention to have used the modified polyvinyl butyral of Papenfuhs et al. in the composition of Heckner et al., and the

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motivation to do so would have been, as Papenfuhs et al. suggests, to increase the solvent resistance of films made from the composition through crosslinking of the polyvinyl butyral (4:49-53). As Heckner et al. teaches that chemical resistance is a concern in their invention (pg. 1), a person having ordinary skill in the art at the time of invention would be motivated to improve the solvent/chemical resistance of the polymer.

B) The applicant's argument that Papenfuhs et al. does not teach the claimed amount of support electrolyte is not germane. The support electrolyte is present in Heckner et al.

C) The applicant's argument that there is not a reasonable expectation of success in optimizing the amount of support electrolyte is not persuasive. Heckner et al. teaches that the lithium salt provides the ion-conducting properties of the composition, a person having ordinary skill in the art at the time of invention would consider the amount of lithium salt to be a result effective variable (pg. 2). There is no indication in the reference or on the record that the amount of lithium salt would lead to unpredictable results. Obviousness does not require absolute predictability, however, at least some degree of predictability is required. Evidence showing there was no reasonable expectation of success may support a conclusion of nonobviousness. *In re Rinehart*, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976). See MPEP § 2143.02. The applicant has not provided any evidence to establish that there is no reasonable expectation of success.

D) The applicant's argument of superior results over the prior art is not persuasive. Whether the unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, the "objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support." In other words, the showing of unexpected results must be reviewed to see if the results occur over the entire claimed range. *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980). See MPEP § 716.02(d). The data relied upon by the applicant (Examples 3 and 4 of the original specification) only show a data point for one polyvinyl butyrate having the claimed structure. However, the claims do not contain amounts for the monomer contents or contain amounts much broader than the single data point provided. Additionally, a range of acetals meet the limitations of the claims, and only one acetal of each type has been presented. As such, it has not been established that the electrical switching characteristics and the permanent switching stability are present throughout the claimed range.

E) In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LIAM J. HEINCER whose telephone number is (571)270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/

Supervisory Patent Examiner, Art Unit 1767

LJH

December 20, 2010